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ABSTRACT

These are the reflections of a textbook author in the course of revising a secondary school textbook. While the average life of a textbook is five years, many stay in schools for much longer. A textbook author or editor must therefore attempt to produce a book that will be relevant and meaningful for children years in the future. This involves the editor's awareness of serious changes in knowledge that could contribute to paradigm shifts, and knowledge of changing social norms. A related issue is the amount and kind of change that can be reflected in a textbook without damaging its appeal to prospective purchasers, i.e., the author's or editor's commitment to accuracy and utility versus the publisher s responsibility to its shareholders. A textbook author or editor must also be aware of the changes that occur in language, not only the language of mainstream culture, but the languages of teenagers and minority groups. In addition to the issues already addressed, the textbook author or editor may be involved in the question of whether textbooks should be politically correct, a charge often leveled at textbooks that address gender issues. Finally, there is the matter of textbooks, provided free to budget-strapped school districts by businesses, special interest groups, and governments, that promote the donors agendas or points of view. (Contains a figure illustrating "The Textbook's Niche in the Ecology of Education," and 25 references.) (MAH)

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ED 399 247

# TEXTBOOKS: SACRED COW OR SACRED TRUST?

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In a recent USA Today front page article, Henry (1996) pointed to the seriousness of textbook shortages in some schools. She reported a recent survey of 1,000 elementary and secondary teachers by the Association of American Publishers (AAP) which found:

* 39% of them say students don't have enough textbooks;
* 42% didn't assign homework because books had to be left in school.
* 52% say kids get wrong information from out-dated material;
* 25% use 10-year-old books; and
* 71% use their own money to buy reading materials.

Rick Blake of the Association of American Publishers (AAP) suggested that this situation may reflect "a case of mistaken priorities," because a 1994 Census report found that in the United States $2 billion was spent for textbooks, but $16 billion was spent for pet food and $81 billion was spent for alcohol. Governor Lawton Chiles of Florida called for an end to such shortages and asked for an increase in his state's textbook budget. Significantly, the survey also indicated that teachers rely heavily on textbooks. Forty-one percent of the teachers said they use textbooks every day, but only 9 percent said they never use them (Diegmueller 1996, p. 8).

The importance of textbooks in history classrooms was underscored by Lerner et al. who note that textbooks are the most widely used instructional medium in high school history classses. Almost all students open their history textbooks at least twice weekly and 60 percent say they read them daily (336).

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## Yes, Virginia, There is a Textbook Author!

Despite the existence and proliferation of textbook development houses, this paper draws from over twenty-five years of experience as an editor and textbook author. I have actually authored the textbooks that carry my name -- and some that don't! The ones I worked on for development houses bear others' names! I am a member of both the Authors' Guild and the Textbook Authors Association. (TAA). While textbook writing is not always recognized as "scholarly" in academic circles, it is slowly beginning to be more respected, especially as the nature of the task becomes more clearly elucidated.

What follows here are the reflections of a textbook author in the course of revising a secondary school textbook. A textbook's life is -- on the average -- five years. Yet many textbooks stay in the school for much longer periods of time. The opportunity to re-write a textbook forces the author to think about a rather distant time horizon when the text will move from her desk to a desk in some future school in some unknown place with a student unknown to her. Sometimes one thinks that the student who will read the book may not even have been born yet! What have I to say to that child? How can I be sure that what I say will have relevance and meaning in such unpredictable times?

## "Texts" and Textbooks

While there are recurrent claims of the "death of the book," and textbooks have their share of detractors, textbooks clearly hold a unique place in the ecology of education (Thompson1982; 1984b). However, a recent report of the National Council of Teachers of English developed with the International Reading Association makes no mention of books, only texts, a word that, in our postmodern culture, seems to apply to anything that can be read: a book, a CD-ROM, a graphic image. According to Richard Klein, a professor of French at Cornell:

> The difference between a text and a book lies in the way books preserve the dense unity of a single, singular work. Texts seem more interchangeable, differential but undifferentiated. (1996, A-15)

While Klein is referring to "literary texts," I would hold that the best textbooks are also "held together" so as to preserve the unity of a disciplinary focus. Unlike information that is fragmented into "bytes," textbooks aim to communicate knowledge which, according to some externally legitimated intellectual standard, is believed to hold value for the learner's future life. While we are far from

reaching consensus on a national education agenda, textbooks continue to hold a central place in many educational settings -- from elementary to post-graduate schools.

## Paradigm Shift and Textbook Content

Science textbooks are designed to familiarize students as quickly as possible with the prevailing paradigms of what Kuhn calls "normal science," i.e., the science currently generating testable hypotheses. The treatment of scientific discoveries is usually seriatim, that is, from a cumulative perspective. Thus they are written in something of a historical vacuum, with information "tailored" to present a coherent, linear development. They create a strong impression that

> science has reached its present state by a series of individual discoveries and inventions that, when gathered together, constitute the modern body of technical knowledge. From the beginning of the scientific enterprise, a textbook presentation implies, scientists have striven for the particular objectives that are embodied in today's paradigms. One by one, in a process often compared to the addition of bricks to a building, scientists have added another fact, concept, law, or theory to the body of information supplied in the contemporary science text. (p. 140)

As Kuhn argues in his seminal work, science does not develop this way at all. Consequently, we are influenced at an early age by the textbook presentation of scientific development -- not the way science, in fact, develops within the scientific community. However, I do not believe it is textbook publishers (whom Lerner at al. count among the "liberal cultural elite" (p. 335)) -- but textbook purchasers -- who are accountable for the cultural lag between what counts as knowledge and what is taught in schools. When it comes to textbooks, it is certainly a "buyers' market."

I believe students carry this uncritical view into their later years and are influenced by "scientific" arguments they can neither understand nor think about critically. I believe they carry this attitude into other areas of the curriculum with a mistaken idea of the nature of a "fact," the nature of "truth," and the nature of "proof." The allegiance to their understanding of "scientific truth" becomes something of a mixture of mythic belief, superstition concerning the authority of members of the scientific community, and fear of looking foolish by entering a discussion whose rules elude them.

Textbooks create a false image about the nature of science and the role of discovery and invention in the scientific enterprise. As the word "knowledge" becomes interchangeable (and even subsumes) "scientific knowledge," the problem becomes exacerbated. Textbook authors, editors, and publishers are all working with a variety of "knowledges" that they may or may not be able to articulate at a given moment. In a recent interview, astronomer Carl Sagan observed:

> Wouldn't it be great if science textbooks spent some time on erroneous past understanding that everybody believed, that the church and the state and the scientists and the philosophers and the schools all taught and turned out to be completely wrong? (Budiansky 1996, p. 78)

Scientific revolutions -- i.e., the adoption of new paradigms -- precipitate new textbook production. My model of the textbook in the ecology of education (1982; 1984b) separates knowledge production from knowledge distribution (see Figure 1). Scientific investigators and researchers in all academic disciplines and applied fields are prolific knowledge producers who have collectively created what has come to be called a "knowledge explosion." Since scientific work proceeds on a continuum, I will speak of predecessor and successor paradigms. Any new interpretation of phenomena -- either natural or social -- arises first in the mind of an individual or a community of like-minded individuals grappling with a puzzle or problem. As a result of their efforts, precipitated by a crisis-provoking situation in the discipline in which they work, not only new knowledge is produced, but new paradigms emerge. By contrast with other disciplines where the student may encounter direct experience in art, literature, and music, laboratory experiments are not direct experiments at all, since they are simply replications of previously known work with the outcome predictable. They are laboratory exercises, but they do not convey the essence of experiment by virtue of their prior predictability. They also discount the importance of the failed experiment as providing significant data. As Kuhn observes:

> Until the very last stages in the education of a scientist, textbooks are systematically substituted for the creative scientific literature that made them possible.... Why, after all, should the student of physics, for example, read the works of Newton, Faraday, Einstein, or Schrodinger, when everything he needs to know about these works is recapitulated in a far briefer, more precise, and more systematic form in a number of up-to-date textbooks. (p. 165)

Paradigm change and culture lag seem to me to be two closely related concepts. Textbooks become outdated when they no longer mesh with the paradigms of normal science. They do not anticipate paradigm change, although given the lead time needed to produce new books, one would assume that the clever editor or publisher would be able to anticipate the emergence of a new paradigm and correlate it with a "market trend." As Kuhn notes:

> When it repudiates a past paradigm, a scientific community simultaneously renounces, as a fit subject for professional scrutiny, most of the books and articles in which that paradigm had been embodied. (p. 167)

We must further note the role of gatekeepers of scientific knowledge and the role of the "invisible colleges" identified by Diana Crane (Thompson, 1987). Unfortunately, textbooks are often viewed as inconsequential "ephemera," and few have used textbooks that go through many editions as examples of paradigm change in which predecessor and successor paradigms can be brought to light.

What Kuhn had to say above is -- in my experience -- applicable to all textbooks. All texts need to be written, edited, and utilized with a conceptual framework in mind. As new knowledge crosses the boundaries of the knowledge productioon system (academic researchers and industry R&D teams), the knowledge distribution system (knowledge industries and the communication media), and the educational delivery system (schools, universities, and other settings), it may or may not challenge old paradigms. In the field in which I write -- Home Economics -- there are vast numbers of changes taking place. Not the least of these changes is the vulnerability of the discipline itself, a matter I will discuss at another time in another place!

## Paradigms: Sacred and Scientific

Textbook publishers do not operate in a free marketplace of ideas. State adoption policies are important aspects of the "market forces" that influence textbook sales. The tension between scholars and opinion leaders is often captured in textbook controversies. Indeed, textbooks are sometimes the symbol of such controversies. One of the great controversies has been the secular humanist/ creationist controversy, which is really a conflict of two paradigms, one metaphysical and one scientific. As recently as March of this year, Creationism entered the headlines again.

According to Applebome:

> Alabama has approved a disclaimer to be inserted in biology textbooks calling evolution "a controversial theory some scientists present as a scientific explanation for the origin of living things." It goes on: "No one was present when life first appeared on earth. Therefore, any statement about life's origins should be considered as theory, not fact." (p. A-22)

Lemonick (1996) reports that:

> school boards in Washington State and Ohio are considering adopting a textbook titled Of Pandas and People, which contains something that would make an evolutionist squirm on virtually every page. (p. 81)

Such state adoption decisions fly in the face of objective debate that includes different approaches to evolutionary theory. They are also important factors in the economics of textbook publishing. We should not confuse scientific with theological issues (Wells 1996). Moreover, we must also help teachers and students -- in all disciplines -- to distinguish between facts and theory. Colby (1996) asserts that evolution and common descent are facts which theories of evolution attempt to explain. He notes that those calling themselves "scientific creationists" do not frame their arguments based on empirical evidence but on their personal interpretation of the Book of Genesis in the Bible (p. 321). As astronomer Carl Sagan stated in a conversation with Stephen Budiansky of U.S. News & World Report:

> The Bible is not a scientific book, or not lately. The science in the Bible is mainly what the Jews during the Babylonian captivity got from the Babylonians 2,600 years ago. And that was the best science on the planet in 600 B.C., but we've learned a lot since. If, as fundamentalists do, you take the Bible as the literal word of God, dictated to a perfect stenographer with no room for metaphor or allegory, then you run into deep trouble because the Bible is demonstrably wrong in areas of science. But if you take it as the work of inspired humans .... then there's no problem, there's no conflict. Science and religion each are in their own sphere, and they're in fact mutually supportive. (Budiansky 1996, p. 78)

Moreover, scientists who agree on the principles of evolution disagree depending on which of three broad schools influence their thinking: selectionists (adaptationists), historicists, and structuralists (Dadachanji, 1996, p. 330). Thus the fact is that textbook critics may accept

different views of the process of creation as laid out in the Bible, yet they are ready to discard without discussion any and all variant theories about the process of evolution. They forget that both scientific theories and religion share one characteristic: they require "leaps of faith." Thus there are external ideological inputs to the market system that inevitably influence authors, editors, and publishers.

I have noticed a strange kind of "feedback loop" in textbook production. Curriculum committees charged with revising courses of study often refer to what is in a group of representative texts. This certainly contributes in some cases to maintaining the status quo. Textbook review committees are notoriously conservative. They are often caught up in educational fads -- not the serious changes in knowledge that would contribute to paradigm change.

## Intelligence: A Changing Paradigm?

Let us consider such a basic concept as intelligence. Our understanding of intelligence operates on many levels. It operates in our assessment of learners (if not of ourselves); it operates in the information we communicate to learners who may one day become researchers on intelligence. The concept of intelligence has a history. It has social implications. Cognitive psychologists report new and frequent findings. And recently the concept has become controversial as in Herrnstein and Murray's Bell Curve. Then we have Daniel Goleman's recent concept of Emotional Intelligence ("E.Q."). How does one balance all this information and introduce it in a coherent way to textbook readers?

I was content once to describe -- for students interested in their own capacity to think and learn -- the different kinds of intelligence described by Gardner in Frames of Mind (1983). I introduced these concepts in one of my texts (Thompson & Faiola-Priest, 1987; 1990). How do new and different insights into intelligence factor into a unit on self-knowledge? As minority -- especially African American students read the text -- how would they deal with a social climate that might label them "inferior" in psychometric intelligence as suggested by Herrnstein and Murray?

Not only do we adapt our teaching in line with our paradigms of intelligence, we are selective in what we choose to teach about intelligence!

## Changing Societal Norms

In addition to the paradigm issue -- what is changing in our world view and ethos -- we must add shifting social norms. Since Home Economics is a family focused discipline,

such changes as changes in family composition and stability must be taken into consideration. But how far can a textbook go in presenting issues that reflect alternative family experiences and divergent family values? From the student's point of view how does an author deal with such things as separation and divorce? Alcoholism? Drugs? Teenage pregnancy? How will community standards affect what the author wants to say? In my case, material on teenage drinking had to be dropped because -- apparently in Texas -- it is not a problem. Unfortunately, from my point of view (as a mother and a grandmother as well as a textbook author), in the quarter of a century in which I have been editing and writing textbooks one issue has not been settled, namely sex (or sexuality) education in public schools.

Among other changes that have taken place are the recognition of the impact of racism, sexism, and heterosexism on family members. The presence of new immigrant populations who share different perspectives on family (on "discipline," for example) than "American" mainstream families share presents yet another challenge. Changes in the food, clothing, and shelter options enjoyed by individuals and families must also enter the picture. The tension among family, peer, media, and societal norms and values makes it difficult for textbook authors to generalize.

Changing gender roles present an uneven picture. On the one hand, feminist values would have households equalize the responsibilities of husbands and wives, fathers and mothers. On the other hand, in some parts of the United States, such proposals are regarded as part of the liberal conspiracy to destroy America. In conservative states, where textbooks are subject to state adoption, resistance can translate into lost revenue if a textbook is labeled (as one of mine once was) as "too feminist!"

In a rather scathing article, Lerner et al. (1996, p. 329) excoriate the genderizing of American history textbooks in response to "feminist demands." The authors sneer at "supposed gender bias in education" (p. 334) and state that:

> The education elite, of course, assumed that sexism was a problem in schools and that a program should be implemented from the top. There was no public response and no local input. In the eyes of the activists, sexism was so pervasive and nonfeminist consciousness so rife that the process had to be controlled from the top down...." (p. 335)

Lerner et al. point with evident disdain to strategies such as "add more women" (p. 329),"put women in both words and pictures,"(p. 330), "make all historic events address the

woman question,"(p. 330), "expand coverage of feminist events" (p. 331), and "remind readers that America is a sexist society" (p. 333). They write:

> The feminist elite ... have long demanded educational reform and have lobbied the federal government extensively toward this end. In 1973, NOW demanded textbook publishers take action to reduce gender stereotypes. In 1974 NOW, the League of Women Voters, and other political groups formed the National Coalition for Women and Girls in Education, in support of the Women's Educational Equity Act (WEEA), claiming a need for federal assistance in combating sexism in the classroom. (p. 335

I find that sexism cuts two ways. It not only denies women entrance to the broad sphere of civic activity and responsibility, it also excludes men from the broad sphere of domectic activity and responsibility. As an author of Home Economics textbooks I have been criticized by feminist critics as being "too traditional" and by traditionalist critics as being "too feminist." When the latter claim was made, not a single "feminist" voice was raised in my defense!

How does one reconcile the difference between an author's commitment to her discipline and a publisher's responsibility to its shareholders? After all, publishers have a right to an ROI (return on investment), and so, too, do authors who may work (as I have done) for two or three years to first write and later revise a textbook.

## A Question of Language

I would like to introduce what I consider a subtle, yet important, aspect of textbook writing and editing, the changes that occur in language. This means not only the language of mainstream culture, but the changes in understanding in the subcultures of teens. For example, in discussing "self image" it has been assumed that one can write about "attitude," namely one's attitude toward oneself and one's attitude toward others. However, "attitude" has taken on a new and somewhat different meaning in teen culture. It seems to have diffused from modeling and perhaps even gay culture to represent more than a single dimension of personality. It has come to mean a whole way of presenting oneself -- with flair, individuality, and assurance.

I have had to grapple with many similar linguistic turns in discussing once well-understood aspects of personality and personality development in everyday life.

Related to the "linguistic turn" is also the slippery rock of identity politics. I have lived through the evolving usage from Negro to "colored," to "people of color" to Black (with a capital "B"), and now to African-American. This now presents a problem. How do we identify readers (students and teachers) who themselves or whose parents are recent immigrants from African countries? How do we identify readers (students and teachers) from the Carribbean? Textbook writing and editing is no field for the faint of heart. But such concerens are part of the textbook's sacred trust -- not only to present information as impartially and accurately as possible but also to reflect the changing norms and concerns of a diverse and "multiply voiced" society with sensitivity but without sacrificing or misrepresenting current scholarship.

## Must Textbooks Be Politically Correct?

The charge of "PC" is often leveled at textbooks that address gender issues. According to Lerner et al. writing on the "grenderizing" of history:

> PC textbooks erode respect for America's past. When the essentially feminist subtext becomes clear, many come to consider texts as propaganda, not fact.... The genderizing of [text] books ultimately leads to a decline in respect for the discipline of history and contributes to a greater cynicism about learning more generally. (p. 337)

According to Lerner et al., "the genderizing of history textbooks results in the systematic insertion of minor and inconsequential women characters, presented in one basic moral shade and with little ambivalence or complexity. Women active in the rights movement are always portrayed sympathetically, while the arguments and actions of their opponents are rarely taken seriously" (p. 333). Women not associated with the women's rights movement are portrayed positively less than half the time in the 1980s books (p. 331). This is not without consequence for such "women's fields" as Home Economics, early childhood education, nursing, and social work whose leading figures -- when judged by a masculinist standard -- are deemed to have been "minor" and "inconsequential."

My own reading of many of these women's lives and writing leads me to think that many of their ideas were later taken up by men and,in effect, coopted without rec-ognizing their earlier work. With that legitimation, their ideas found their way into the "malestream" with little resistance. One such example would be Ellen Swallow Richards, the first person in the United States to call for environmentally-oriented study (Thompson 1994; 1995).

The "New Conservative" backlash is an insidious influence on the dissemination of new scholarship. While it is true that knowledge must stand the test of time, social attitudes and a changing public sensibility must also be taken into account both by the authors and publishers of textbooks.

## Is There a Role for Textbooks in an Era of Technology?

On another front, some technology proponents believe the answer to textbook deficiencies is hypermedia learning -- HI -- which promotes the use of computers and band electronic networks to enable students to "thread their way through a lush forest of information and visual images, tailoring the experience to their own interests and abilities" (Rupp, p. 36). On the one hand, teachers bemoan the lack of textbooks in the schools; on the other, the latest "experts" predict the textbook's obsolescence. It might be added that some also see the teacher as obsolete with the classroom dissolving into "a vast international network of information and visual stimuli" (Rupp, p. 35). In a burst of hyperbole, Lewis J. Perelman claims that the students of tomorrow will have the world's knowledge at their fingertips, presented on demand in a manner best suited to their personal learning styles" (Rupp, p. 34). Such technical approaches, as compared with conventional textbook approaches, critics suggest, may actually impede the assimilation of new concepts and experiences. To this, my response is "Who ever heard of 'curling up with a good computer'?"

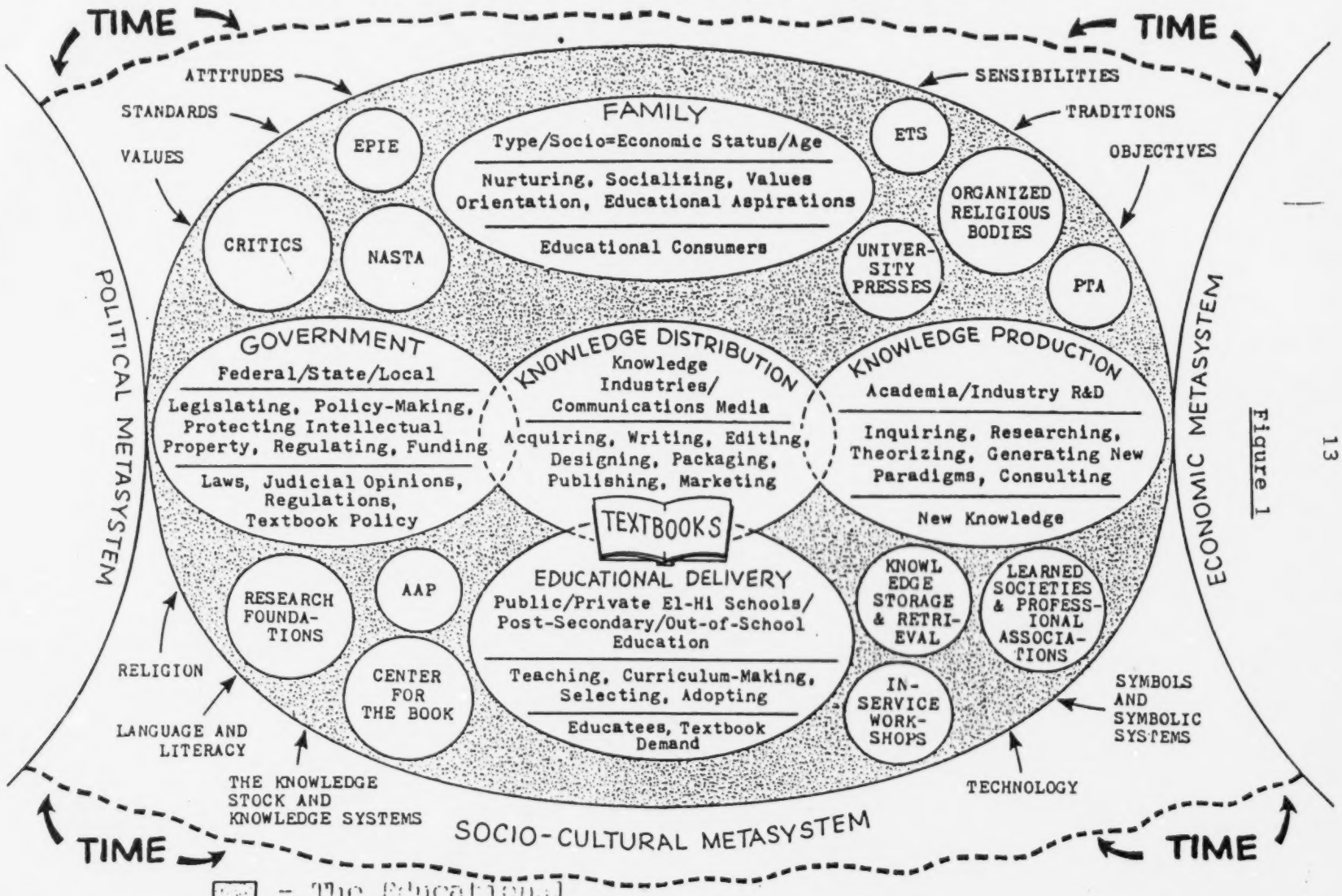
## Free Enterprise and Business Sponsored School Resources

Apple (1989) acknowledged the textbook to be "an economic commodity ... bought and sold under the conditions of a capitalist market" (p. 282). This has created competition in the market of ideas and the market for ideological commitments. Whereas Anyon (1979) expressed concern about ideology implicit in texts themselves, few writers anticipated the opportunity open for commercial interests to peddle their ideologies directly to teachers and students. A recent concern of educators has been the introduction by business, special interest groups, and governments willing to provide budget-strapped school districts with curriculum materials, so-called "sponsored materials" (New York Times, January 18, 1996). Such "freebie" resources are often cleverly packaged marketing and public relations tools whose appeal is not their educational value but their no-cost and ready-made character. Whose interests do such self-promoting materials serve? What agendas do such materials advance? Political? Economic? Social? We appear to have been witness to the unhappy marriage of commerce and curriculum.

A leading business magazine made yet another observation underscoring the importance of education to business, arguing that higher educational standards were essential to provide the nation with a skilled workforce. It also urged companies to "put their money where their mouths are -- and help finance reforms, the adoption of technology, and teacher training through grants, products, and volunteer work" (Business Week, April 1, 1996, p. 98). How such ventures would be monitored to keep them ideologically independent is not discussed. Can we assume that what is good for America's business is good for America's education? I believe that a market-driven educational system would be a follower, not a leader.

In a study of the use of the "commerical channel" -- Whittle Communications' six-year-old "Channel One" -- the University of Massachusetts found in 1993 that "The schools with the most minimal resources ... are the most overburdened" with such commercial "curriculum aids" (Molnar, (p. 8). One irony of this is the notion of Exxon distributing aids on environmental teaching (p. 9). According to Charlotte Baecher, director of Consumers Union's Education Services Department, "With free materials school boards aren't bound by the same stringent standards of approval as they are with regular teaching materials" (p. 9). This would lead me to think that this presentation might be appropriately re-titled, "Textbooks: Cash Cow or Sacred Trust"!

## THE TEXTBOOK'S NICHE IN THE ECOLOGY OF EDUCATION




= The Educational Suprasystem

Figure 1

14 1982, Dr. Patricia J. Thompson, Herbert H. Lehman College, CUNY, The Bronx, NY. 15

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